UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/882,949	06/15/2001	Sami Kekki	796.400USW1	1928

32294 7590 11/18/2004	**EXAMINER**
SQUIRE, SANDERS & DEMPSEY L.L.P.	KNEPPER, DAVID D

14TH FLOOR	**ART UNIT** **PAPER NUMBER**
8000 TOWERS CRESCENT	2654
TYSONS CORNER, VA 22182	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		Applicant(s)
Office Action Summary	09/882,949		KEKKI ET AL
	Examiner		Art Unit
	David D. Knepper		2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 June 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4 and 6-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4 and 6-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 Mar 2003, 30 Oct 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All   b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

1.　　This Office Action is a result of the Interview Summary (paper #21, 17 June 2004) between Supervisory Primary Examiner Richemond Dorvil (for PTO) and Arleen Neal (Registration number 43828). The resulting Interview Summary (paper #21) was faxed to Arleen Neal by Richemond Dorvil.

The Interview Summary (paper #21) includes a definition of "Speech Coding" published by Arizona State University which is relied upon by the applicant to narrow the term "speech coding" as it appears in the claims.

Thus, the Interview Summary and definition of paper #21 overcomes previous statements made in papers #19 and #20 noted below.

Primary Examiner David Knepper had addressed two speech coding methods in paper #19 (mailed 23 March 2004) on page 4 where Kapadia column 1, lines 60-63 is quoted: <u>The algorithms used in the full rate speech codec and the ones currently proposed for the half rate speech codec are completely different. Hence, the parameters they produce and the parametric to sensitivity ordering are also different.</u>

The Interview Summary of paper #20 (2 June 2004) between Primary Examiner David Knepper (for PTO) and Arleen Neal (for applicant), in combination with the Office Action of paper #19 that the teaching in Kapadia anticipate the claims is overcome by the new interpretation of claims rendered in paper #21 noted above.

2.　　Claims 1, 4 and 6-14 are pending. Claims 2, 3 and 5 have been canceled.

Drawings

3.   The drawings are objected to as failing to show the respective "encoder", "decoder" and "speech coding algorithms" as relied upon by the applicant as per the definition of Speech Coding by Arizona State University regarding the claimed "first speech coding" and "second speech coding". The drawings also fail to show the method steps wherein "the speech parameters received from the terminal equipment for transmission onto the second transmission path are converted into speech parameters of the second speech coding method and speech parameters to be transmitted to the terminal equipment on the first transmission path are converted into speech parameters of the first speech coding method".

The method steps of figures 6a and 6b only determine the transmission rate. They do nothing to determine the type of coding differences between "first speech coding" and "second speech coding" necessary to perform a direct conversion between two different coders.

Claims

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1, 4 and 6-14 are rejected under 35 USC 103 (a) over Kapadia (5,768,314) in view of Tseng (6,172,974).

As per claims 1, 6, 10 and 14 "boosting data transmission in a telecommunications system" is taught or suggested by Kapadia's use of <u>compressed speech data</u> (col. 1, line 28):

"providing first transmission path" (Kapadia's path from 20 to 13, figure 3 or Tseng's path from mobile stations MS to/from blocks 24, figures 2-4);

"providing a second transmission path" (Kapadia's path from 31 to 26, figure 3 or Tseng's path between originating and terminating MSC/BSC, 12A/14A to/from 12B/14B, figures 2- 4);

"transmitting speech parameters" (see Kapadia's <u>speech</u> input at 10 is coded into parameters or see Tseng's <u>vocoder includes an encoder stage that will accept as input a digitized voice signal and output a compressed signal, a possible compression ratio being 8:1</u>, col. 1, lines 43-45);

"converting the speech parameters between the first speech coding method and a second speech coding method" (suggested by Kapadia's <u>full rate</u> and <u>half rate codecs</u>, figure 3 – see also columns 1, 3 and 4 which teach that <u>The algorithms used in the full rate speech codec and the ones currently proposed for the half rate speech codec are completely different. Hence, the parameters they produce and the parametric to sensitivity ordering are also different</u>, col. 1, lines 60-63);

"transmitting the speech parameters at least on a part of the second transmission path using the second speech coding method" (Kapadia suggests using a <u>half rate speech codec 37</u> on part of the path from 13 to 26 as shown in figure 3).

Kapadia does not teach details regarding how the conversion between two different types of speech coders is performed. However, his teaching in col. 1, lines 60-63 indicates that it is

obvious to use at least two completely different coder and decoder (codec) combinations to allow

the transmission of data across paths that are limited to different bit rate transmissions. Tseng

teaches details showing transcoding, 46 (fig. 4) and that converting compressed speech signals

from one format to another intermediate common format (CF)... is well known ...when

vocoders of the originating and terminating mobile stations are not identical (col. 5, lines 25-31).

He similarly teaches that it is known to convert between different speech coders by

decompressing voice data to a PCM format (col. 5, lines 34-35).   Thus, Tseng teaches that it is

well known to use a PCM format as the common format (CF).   Therefore, it would have been

obvious to convert between any known forms of speech coding by decoding speech into a

common format which may then be coded using another form of speech coder (vocoder) because

Tseng teaches that this will allow digital communications systems to transmit data across paths

that use different types of speech coders at the terminal ends.

Claim 4, 11: Kapadia teaches in column 1, lines 52-53 the speech codec can be at the

BTS (Base Transceiver Site), Base Station Controller (BSC) or Mobile Switching Center (MSC)

sites. Tseng also clearly shows mobile stations with his use of cellular phones (figures 1, 2).

Claim 7: It is inherent that the elements must be connected to be functional.

Claim 8: See also Tseng, columns 8-9 which show that it is obvious to convert between a

variety of speech coding technologies ("methods").

Claim 9, 13: Kapadia teaches that the location of the speech coder is flexible (see claim 4

above).   Similarly, Tseng teaches that transcoding is controlled using a co-located encoder

(blocks 46 and 24 of figure 4).

Claim 12: As shown by figure 4 of Tseng, it is obvious to use any known format (i.e. – compressed speech or common format or digitized speech) for the signal being transmitted over the transmission path.

Claim 14 is rejected under similar arguments as applied to claim 1 as further noted above.

Prior Art

6.   Brophy (6,070,089) is cited to show that it is well known to covert between different speech coders (vocoders) within a cellular communications system.

The GSM standard from 1998 is cited to show that the interpretation of the current claims would not read on a system limited to this standard alone because the speech coding is still done using LSP parameters and thus only the rates are varying (see page 16).

Furui is cited to show that a wide variety of different speech coders is well known in the are of speech processing (fig. 5.22). The ability to convert parameters one-way or two-way is indicated by the arrows between different coding methods.

Ashley (6,104,993) is cited to show that it is well known to determine variable rate transmission of speech among different types of speech coders.

7.   Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
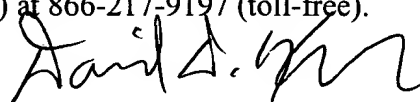Washington, D.C. 20231

or faxed to:

TC2600 Fax Center
(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to David D. Knepper whose telephone number is (703) 305-9644.

The examiner can normally be reached on Monday – Thursday from 7:30 a.m to 6:00 p.m..

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

        Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David D. Knepper
Primary Examiner
Art Unit 2654